

L4 ANSWER 44 OF 50 CA COPYRIGHT 2009 ACS on STN
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 TI Calcium sodium silicate glass compositions, hollow
 microspheres obtained from the glass, and process for their
 manufacture
 IN Garnier, Patrick; Abriou, Daniel
 PA Saint-Gobain Vitrage International S. A., Fr.
 SO Fr. Demande, 17 pp.
 CODEN: FRXXBL
 DT Patent
 LA French
 IC ICM C03C003-089
 CC 57-1 (Ceramics)

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CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
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| FR 2671072 | ICM | C03C003-089 |
| | IPCI | C03C0003-089 [ICM,5]; C03C0003-076 [ICM,5,C*] |
| | IPCR | C03B0019-00 [I,C*]; C03B0019-10 [I,A]; C03C0003-076 [I,C*]; C03C0003-093 [I,A]; C03C0011-00 [I,C*]; C03C0011-00 [I,A] |
| | ECLA | C03B019/10C2; C03C003/093; C03C011/00B |
| AB | | The glass contains SiO ₂ 55-80, B ₂ O ₃ 5-15, Al ₂ O ₃ 3-8, Li ₂ O 0-2, K ₂ O 0-2, Na ₂ O 11-16 (Li ₂ O + K ₂ O + Na ₂ O 11-18), MgO 0-1, CaO 0.1-3, BaO 0-6, ZnO 1-5 (MgO + CaO + BaO + ZnO 3-14), fluoride 0-5, and sulfate 0.3-0.8 weight%. The lightwt. hollow microspheres have d. <0.7 g/cm ³ , and are obtained by thermal expansion of particles of the soda-lime glass. The process comprises dispersing the particles in a gas stream, passing the loaded gas stream through flame at ≥1500° to expand the particles and form the hollow microspheres, and quenching the hollow microspheres. The glass is obtained by elec. melting the composition using Mo electrodes. The hollow microspheres are resistant to elevated pressures, and are suitable for use in synthetic resins and concrete. |
| ST | | soda lime glass hollow microsphere; calcium sodium silicate glass microsphere |
| IT | | Glass, oxide |